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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/692,927	10/20/2000	Richard Stirling-Gallacher	450117-02828	8382
20999	7590	05/28/2004	EXAMINER	
FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW-YORK, NY 10151			PHU, PHUONG M	
			ART UNIT	PAPER NUMBER
			2631	9

DATE MAILED: 05/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/692,927

Applicant(s)

STIRLING-GALLACHER, RICHARD

Examiner

Phuong Phu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 4/8/04.

#### *Specification*

2. The specification is objected to because its format does not comply with 37 CFR 1.77(b).

Appropriate correction is required.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites “the turbo decoder (34)” on line 4. This limitation is lack of antecedent basis.

Claim 5 recites the limitation “the turbo decoder” on line 4. This limitation is lack of antecedent basis.

Claim 2 recites the limitation “a preceding decoding unit (25)” on line 2. It is unclear whether the limitation refers to “a subset (25)”, recited on line 3 of claim 1. If so, “a preceding decoding unit (25)” and “a subset (25)” must be renamed with the same name. Otherwise, “25” in these limitations must be removed in order to avoid an ambiguity for the claims.

Similarly, claim 3 recites the limitation “the first decoding unit (25)” on line 2. It is unclear whether the limitation refers “a subset (25)”, recited on line 3 of claim 1

Similarly, claim 4 recites “a decoder (34)” on line 2. It is unclear whether the limitations refers to “Turbo decoder” on line 1 of claim 1 or to “the decoder (34)” on line 4 of claim 1.

Similarly, claim 7 recites the limitation “a preceding decoding unit (25)” on lines 2-3. It is unclear whether this limitation refers to “a subset (25)”, recited on lines 3-4 of claim 5.

Similarly, claim 8 recites the limitation “the first decoding unit (25)” on line 2. It is unclear whether this limitation refers to “a subset (25)”, recited on lines 3-4 of claim 5.

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Similarly, claim 8 recites the limitation “the second decoding unit (30)” on lines 3-4. It is unclear whether this limitation refers to “the other decoding unit(s) (30)”, recited on line 5 of claim 5.

Claims, (if any, depended on the above claims), are therefore also rejected.

5. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01.

Claim 1 omits the functional/structural/connectional interrelationships of elements “sub set (25)”, “normalization unit (27)”, each of “decoding units”, and “turbo decoder (34)” with each other, and/or with the input(s) and output(s) of the claimed “Turbo decoder” in order to make the claimed “Turbo decoder” as a complete connective and operative system.

Claim 2 omits the functional/structural/connectional interrelationships of elements “only decoding units (30) and “preceding decoding unit (25)” with other elements (e.g., “sub set (25)”, “normalization unit (27)”, each of “decoding units”, and “turbo decoder (34)”, recited in claim 1), and/or with the input(s) and output(s) of the claimed “Turbo decoder” in order to make the claimed “Turbo decoder” as a complete connective and operative system.

Claim 3 omits the functional/structural/connectional interrelationships of elements “two decoding units (25, 30)” and “first decoding unit (25) with each other, with other elements (e.g., “sub set (25)”, “normalization unit (27)”, each of “decoding units”, and “turbo decoder (34)”, recited in claim 1), and/or with the input(s) and output(s) of the claimed “Turbo decoder” in order to make the claimed “Turbo decoder” as a complete connective and operative system.

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Claim 4 omits the functional/structural/connectional interrelationships of element “turbo decoder (34)” with the input(s) and output(s) of the claimed “Mobile communication device” in order to make the claimed “Mobile communication device” as a complete connective and operative system.

6. Claims 5-10 are rejected under 35 U.S.C. 112, second paragraph, as being narrative in form and do not contain positively recited steps of a specific process. Note that method claims should set forth a series of steps in the active tense in an instruction-like manner thereby reciting an actual method. Dependent claims should further limit base claims by reciting additional steps in a likewise fashion. Ex parte Erlich 3USPQ2d 1011 at 1017[6].

7. Claims 5-10 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps.

Claim 5 omits step(s) showing the functional/structural/connectional interrelationships of elements “decoding units (25, 30)”, “a subset (25)”, and “other decoding unit(s) (30)” with each other and/or with the input(s) and output (s) of element “the turbo decoder” in order to make the system associated with the claimed method as a complete connective and operative system.

Claim 7 omits step(s) showing the functional/structural/connectional interrelationships of elements “decoding units (30)” and “preceding decoding unit (25) with other elements (e.g., “decoding units (25, 30)”, “a subset (25)”, and “other decoding unit(s) (30)”, recited in claim 5) and/or with the input(s) and output (s) of element “the turbo decoder”, recited in claim 5, in order to make the system associated with the claimed method as a complete connective and operative system.

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Claim 8 omits step(s) showing the functional/structural/connectional interrelationships of elements “first decoding unit (25)” and “second decoding unit (30)” with each other, with other elements (e.g., “decoding units (25, 30)”, “a subset (25)”, and “other decoding unit(s) (30)”, recited in claim 5) and/or with the input(s) and output (s) of element “the turbo decoder”, recited in claim 5, in order to make the system associated with the claimed method as a complete connective and operative system.

Claim 10 omits step(s) showing the functional/structural/connectional interrelationships elements “decoding units (25, 30)”, “a subset (25)”, and “other decoding unit(s) (30)” with each other and/or with the input(s) and output (s) of element “the turbo decoder” in order to make the system associated with the claimed method as a complete connective and operative system for showing the claimed “a parallel concatenated scheme”.

Claims, (if any, depended on above claims), are therefore, also rejected.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1-10 are rejected under 35 U.S.C. 102(a) as being anticipated by the prior art, admitted by the applicant.

As per claims 1 and 3, see figure 3 and page 2 of the instant application, the admitted prior art discloses a system comprising a first decoding means (25) and a second decoding means ((30, 31), (30, 26)), each having an associated algorithm, wherein only the first decoding means

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is provided with a normalization unit (27) at its output side while the second decoding means are not provided with any normalization unit at the output (32).

As per claim 2, the admitted prior art discloses that the second decoding means is provided with a normalized output of the first decoding means, and the second decoding means is not provided with any normalization unit at the output (32) (see figure 3).

As per claim 4, the admitted prior art system is inherently implemented for a communication system (see page 2, line 5-10).

As per claims 5 and 6, see figure 3 and page 2 of the instant application, the admitted prior art discloses a system comprising a first decoding means (25) and a second decoding means ((30, 31), (30, 26)) wherein outputs of the decoding means are normalized with a normalization factor (C1) (after these outputs being processed by means (25) and/or combined by means (+)), and only the first decoding means is normalized with a normalization factor (C1) variable during operation (since value of C1 can be as expressed as a formula given on lines 14-17, page 2, wherein the value C1 inherently has to re-calculated after new extrinsic information is outputted), while the second decoding means is un-normalized by means (31), or in another word, is normalized by means (31) with an inactive factor of value equal to 1 (since means (31) can be considered as providing an inactive factor of value equal to 1 to the second decoding means).

As per claim 7, the admitted prior art discloses that the second decoding means is provided with a normalized output of the first decoding means, and the second decoding means is normalized by means (31) with an inactive factor of value equal to 1 (see figure 3).

Claim 8 is rejected with reasons set forth for claims 5-7.



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As per claim 9, the admitted prior art discloses that the normalization factor is calculated on the basis of means and variance of the extrinsic information produced by decoding processes (see lines 14-17, page 2 of the instant application).

As per claim 10, the admitted prior art discloses that the system performed in a parallel concatenated scheme (see figure 3).

***Response to Arguments***

10. Applicant's arguments filed on 4/8/04 have been fully considered but they are not, in part, persuasive.

With respect to the objection to Drawings, the objection is now withdrawn since the Drawings have been amended to overcome the objection.

With respect to the objection to Abstract, the objection is now withdrawn since the Abstract has been amended to overcome the objection.

With respect to the objection to the Specification because its format does not comply with 37 CFR 1.77(b), the applicant has not responded to this objection. Therefore, the objection is repeated above in this Office Action.

With respect to the rejection, under 112, first paragraph, to claims 1-4, the rejection is now withdrawn since the claims have been amended to overcome the rejection.

However, upon a further consideration, claims 1-10 are deemed to be rejected because of reasons set forth above in this Office Action.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 703-308-0158. The examiner can normally be reached on M-F (8:30-6:00) First Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 703-306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Phuong Phu  
05/26/04

Phuong Phu  
Primary Examiner  
Art Unit 2631

**PHUONG PHU  
PRIMARY EXAMINER**